

Applicant: Sakari Soini  
Application No.: 10/089,800  
Art Unit: 1731

### Remarks

Claims 12-13, 16-18, 21, 25-27, and 29-35 remain pending in the application. Claims 11, 14-15, 19, 20, 22, 23, 24, and 28 have been canceled, and claims 31-35 have been added. In the Office Action dated February 26, 2003, claims 11-30 were rejected under 35 USC section 112 second paragraph. Claims 11-16, 19-26 and 28 were rejected as obvious over *Keskiivari et al.* (US 5,074,965) and as needed *Hergert et al.* Claims 11, 12, 14-15, and 24 were rejected as anticipated or obvious over *Hildebrand '162*. Claims 11, 13-14, 19, 20-23 and 28 were rejected as anticipated or in the alternative obvious over *Alan* or *FI 8817*. Claim 17, 18, 26, 27, 29 and 30 were indicated as allowable if rewritten to overcome rejections under 35 USC § 112 and amended to include all the limitations of the base claim and any intervening claims.

Claims 17, 18, 26, 27, 29 and 30 have been rewritten as suggested by the Examiner to place them in condition for allowance.

New claim 31 is based on the subject matter of claims 11 and 14 and which is further distinguished from *Hildebrand* by the limitation that the flow layers meet before the slice opening. Claim 31 is distinguished from *Keskiivari et al.* (US 5,074,965) by the "elements generating and maintaining turbulence are arranged so that those elements generating the layer(s) of stock suspension being filtered last in the web former are positioned closer to the slice opening of the headbox". The aim of the invention is to maintain an optimal turbulence level in the stock suspension flow during the web formation, especially in the stock suspension layer to be dewatered last in the former after the head box. Claim 32 is directed to a web former having two wires, claims 33 is directed to a web former having one wire.

New claim 34 distinguishes from the art of record which does not teach the combination of turbulence "pipes of superimposed pipe rows have different and greater flow cross-section areas where the rows are more distant from the at least one wire" followed by trailing elements of different lengths. *Allen* (US 5,133,836) teaches a single or multi-layer head box with a step-diffuser tube bank followed by trailing elements that may be of different distance from the slice opening. The Examiner's comment on Fig. 4 that the middle layer has greater flow section than the outer layers,

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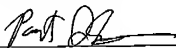
teaches nothing about the turbulence pipes having different and greater flow cross-section. Thus, in the claimed solution the level of turbulence generated in each layer of stock suspension flow by turbulence pipes of different cross sections, is maintained and intensified by trailing elements of different lengths. Thus claim 34 distinguishing also over *Kade* which shows turbulence generators of different cross-section, and *Keskiivari et al.* (US 5,074,965) which suggests that the length of dividing plates varies because there is no suggestion to combine turbulence generators of different cross-section with trailing elements of different lengths so that greater turbulence is created and maintained for the last layers to be filtered. Claim 35 is directed to the invention of Fig 3 of the application which is not shown in the art of record.

Claims 12, 13, 16, 21 and 25 have been amended to depend from allowable claims adding additional limitations and are therefore also allowable.

Applicant believes that no new matter has been added by this amendment.

Applicant submits that the claims, as amended, are in condition for allowance. Favorable action thereon is respectfully solicited.

Respectfully submitted,



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Amend.res/amend

(Translated from Finnish)

(Claim 1 + Abstract of Valmet Paper Machinery Inc.'s  
FI Pat. Appl. No. 913647, filed July 31, 1991)

"Adjustable device with turbulence flaps in the discharge duct of the headbox of a paper machine"

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CLAIMS:

1. Device (30) with turbulence flaps in the headbox of a paper machine, comprising a number of plate-shaped turbulence flaps, which are attached to the support construction of the turbulence generator or equivalent by their inlet edge, seen in the flow direction, and which turbulence flaps are free at their trailing edge and extend across the entire width of the headbox in the transverse direction, c h a r a c t e r - i z e d in that the device (30) with turbulence flaps comprises a rigid holder (31), which holder (31) comprises a holder frame (31a) and an articulated joint (31b), by whose means the holder (31) is fitted to turn, and that the holder (31) comprises at least two, preferably more than two, fastening positions (32a,32b,32c,32d...), into which alternative fastening positions (32a or 32b or 32c or 32d...) the flap (33) can be placed so as to adjust the overall length (L) of the device (30) with flaps as desired.

2. -----

(57) Abstract

The invention concerns a device (30) with turbulence flaps in the headbox of a paper machine, comprising a number of plate-shaped turbulence flaps, which are attached to the support construction of the turbulence generator or equivalent by their inlet edge, seen in the flow direction, and which turbulence flaps are free at their trailing edge and extend across the entire width of the headbox in the transverse direction. The device (30) with turbulence flaps comprises a rigid holder (31), which holder (31) comprises a holder frame (31a) and an articulated joint (31b), by whose means the holder (31) is fitted to turn. The holder (31) comprises at least two, preferably more than two, fastening positions (32a,32b,32c,32d...), into which alternative fastening positions (32a or 32b or 32c or 32d...) the flap (33) can be placed so as to adjust the overall length (L) of the device (30) with flaps as desired.